

09-26-02

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ATTORNEY DOCKET NO. 069204.0118

SERIAL NO. 10/028,576

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Mohammed N. Islam, et al.  
Serial No. 10/028,576  
Filing Date: December 20, 2001  
Group Art Unit: 2873  
Title: OPTICAL AMPLIFICATION USING LAUNCHED SIGNAL  
POWERS SELECTED AS A FUNCTION OF A NOISE FIGURE

IDS # 5  
G. B. ...  
10/03/02

Honorable Assistant Commissioner  
for Patents  
Washington, D.C. 20231

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Willie Jiles

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INFORMATION DISCLOSURE STATEMENT

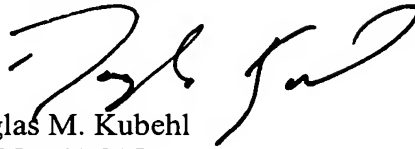
Applicants respectfully request, pursuant to 37 C.F.R. § 1.56, 1.97, and 1.98, that the references listed on the attached PTO-1449 form be considered and cited in the examination of the above-identified patent application. Copies of these references are enclosed for the convenience of the Examiner. Furthermore, pursuant to 37 C.F.R. § 1.97(h), no representation is made that these references qualify as prior art or that these references are material to the patentability of the present application.

Pursuant to 37 C.F.R. § 1.97(b)(3), Applicants believe that this Information Disclosure Statement has been filed before the mailing date of the first Official Action in this case. Therefore, Applicants believe that no fee is due. However, if a fee is required, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker & Botts, L.L.P.

Respectfully submitted,

BAKER & BOTTS, L.L.P.

Attorneys for Applicants

A handwritten signature in black ink, appearing to read 'Douglas M. Kubehl', is written over the printed name.

Douglas M. Kubehl  
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Date: 9-24-02

PTO-1449	Application No. <b>10/028,576</b>	Applicant(s) <b>Mohammed N. Islam et al.</b>	
Docket Number <b>069204.0118</b>		Group Art Unit <b>2873</b>	Filing Date <b>December 20, 2001</b>



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	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
A	4,700,339	10/13/1987	Gordon et al.	370	3	01/28/1986
B	4,932,739	06/12/1990	Islam	350	96.15	09/25/1989
C	4,995,690	02/26/1991	Islam	350	96.15	04/24/1989
D	5,020,050	05/28/1991	Islam	370	4	10/13/1989
E	5,060,302	10/22/1991	Grimes	359	135	02/28/1990
F	5,078,464	01/07/1992	Islam	385	122	11/07/1990
G	5,101,456	03/31/1992	Islam	385	27	11/07/1990
H	5,115,488	05/19/1992	Islam et al.	385	129	05/10/1991
I	5,224,194	06/29/1993	Islam	385	122	04/02/1991
J	5,225,922	07/06/1993	Chraplyvy et al.	359	124	11/21/1991
K	5,369,519	11/29/1994	Islam	359	173	02/05/1993
L	5,485,536	01/16/1996	Islam	385	31	10/13/1994
M	5,557,442	09/17/1996	Huber	359	179	12/30/1994
N	5,623,508	04/22/1997	Grubb et al.	372	3	02/12/1996
O	5,664,036	09/02/1997	Islam	385	31	10/12/1995

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	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
P	0 829 980 A2	18.03.1998	EP	H04J	14/02	X	
Q	98/20587	14.05.1998	WO	H01S	3/30	X	
R	98/36479	20.08.1998	WO	H01S	3/10		X
S	98/42088	24.09.1998	WO	H04B	10/17	X	
T	0 903 876 A1	24.03.1999	EP	H04B	10/17	X	
U	0 903 876 B1	28.02.2001	EP	H04B	10/17	X	

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
V	Chraplyvy et al., "Equalization in Amplified WDM Lightwave Transmission Systems," IEEE Photonics Technology Letters, Vol. 4, No. 8, pp. 920-922	08/1992
W	Liaw et al., "Passive Gain-Equalized Wide-Band Erbium-Doped Fiber Amplifier Using Samarium-Doped Fiber," IEEE Photonics Technology Letters, Vol. 8, No. 7, pp. 879-881	07/1996
X	White et al., "Optical Fiber Components and Devices," Optical Fiber Telecommunications, Ch. 7, pp. 267-319	1997
Y	Zyskind et al., "Erbium-Doped Fiber Amplifiers for Optical Communications," Optical Fiber Telecommunications, Ch. 2., pp. 13-69	1997

EXAMINER	DATE CONSIDERED
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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PTO-1449	Application No. <b>10/028,576</b>	Applicant(s) <b>Mohammed N. Islam et al.</b>	
<b>Information Disclosure Citation In an Application</b>	Docket Number <b>069204.0118</b>	Group Art Unit <b>2873</b>	Filing Date <b>December 20, 2001</b>

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	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
A	5,673,280	09/30/1997	Grubb et al.	372	3	02/12/1996
	5,778,014	07/07/1998	Islam	372	6	12/23/1996
	5,790,289	08/04/1998	Taga et al.	359	124	05/22/1996
D	5,796,909	08/18/1998	Islam	385	147	02/14/1996
E	5,801,860	09/01/1998	Yoneyama	359	124	08/05/1996
F	5,847,862	12/08/1998	Chraplyvy et al.	359	337	11/29/1997
G	5,852,510	12/22/1998	Meli et al.	359	341	07/24/1995
H	5,861,981	01/19/1999	Jabr	359	341	08/20/1997
I	5,920,423	07/06/1999	Grubb et al.	359	341	12/05/1997
J	5,959,766	09/28/1999	Otterbach et al.	359	337	06/26/1997
K	5,995,275	11/30/1999	Sugaya	359	341	02/19/1997
L	6,008,933	12/28/1999	Grubb et al.	359	341	08/19/1997

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						YES	NO
M	0 911 926 A1	28.04.1999	EP	H01S	3/10	X	
N	99/43117	26.08.1999	WO	H04J	14/00	X	
O	0 959 578 A2	24.11.1999	EP	H04J	14/02	X	
P	99/66607	23.12.1999	WO	H01S		X	

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
Q	Agrawal, "Fiber-Optic Communication Systems," Second Edition, Basic Concepts, John Wiley & Sons, pp. 365-366 plus title page and copyright page	1997
R	Tonguz et al., "Gain Equalization of EDFA Cascades," Journal of Lightwave Technology," Vol. 15, No. 10, pp. 1832-1841	10/1997
S	Masuda et al., "Ultrawide 75-nm 3-dB Gain-Band Optical Amplification with Erbium-Doped Fluoride Fiber Amplifiers and Distributed Raman Amplifiers," IEEE Photonics Technology Letters, Vol. 10, No. 4, pp. 516-518	04/1998
T	Dianov et al., "High efficient 1.3µm Raman fiber amplifier," Electronics Letters, Vol. 34, No. 7, pp. 669-670	04/02/1998
U	Forghieri et al., "Simple Model of Optical Amplifier Chains to Evaluate Penalties in WDM Systems," Journal of Lightwave Technology, Vol. 16, No. 9, pp. 1570-1576	09/1998
V	Chernikov et al., "Broadband Silica Fibre Raman Amplifiers at 1.3 µm and 1.5µm," ECOC, pp. 49-50	09/20-24 1998
W	Letellier et al., "Access to Transmission Performance Margins Through Pre-emphasis Adjustment in WDM Systems," ECOC, pp. 275-276	09/20-24 1998

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PTO-1449		Application No. <b>10/028,576</b>		Applicant(s) <b>Mohammed N. Islam et al.</b>		
<b>Information Disclosure Citation In an Application</b>		Docket Number <b>069204.0118</b>		Group Art Unit <b>2873</b>		
				Filing Date <b>December 20, 2001</b>		
<b>U.S. PATENT DOCUMENTS</b>						
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	6,040,933	03/21/2000	Khaleghi et al.	359	124	12/19/1997
B	6,043,927	03/28/2000	Islam	359	332	01/16/1998
	6,049,413	04/11/2000	Taylor et al.	359	337	05/22/1998
D	6,052,393	04/18/2000	Islam	372	6	07/07/1998
E	6,055,092	04/25/2000	Sugaya et al.	359	337	05/28/1996
	6,067,177	05/23/2000	Kanazawa	359	124	06/26/1997
G	6,072,601	06/06/2000	Toyohara	358	484	02/12/1998
H	6,088,152	07/11/2000	Berger et al.	359	334	03/08/1999
I	6,094,296	07/25/2000	Kosaka	359	341	07/22/1997
J	6,101,024	08/08/2000	Islam et al.	359	334	03/24/1998
K	6,104,848	08/15/2000	Toyohara et al.	385	24	03/03/1998
L	6,115,157	09/05/2000	Barnard et al.	359	124	12/24/1997
M	6,115,174	09/05/2000	Grubb et al.	359	334	07/21/1998
N	6,134,034	10/17/2000	Terahara	359	124	12/26/1996
O	6,147,794	11/14/2000	Stentz	359	334	02/04/1999
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	<b>DOCUMENT NO.</b>	<b>DATE</b>	<b>COUNTRY</b>	<b>CLASS</b>	<b>SUBCLASS</b>	<b>TRANSLATION</b>
						<b>YES</b> <b>NO</b>
P	00/49721	24.08.2000	WO	H04B		X
Q	1 054 489 A2	22.11.2000	EP	H01S	3/067	X
R	00/72479	30.11.2000	WO	H04B	10/08	X
	<b>DOCUMENT (Including Author, Title, Source, and Pertinent Pages)</b>					<b>DATE</b>
S	Chernikov et al., "Broadband Raman amplifiers in the spectral range of 1480-1620 nm," OFC/IOOC Technical Digest, Vol. 2, pp. 117-119					02/21-26/1999
T	Masuda et al., "Wide-Band and Gain-Flattened Hybrid Fiber Amplifier Consisting of an EDFA and a Multiwavelength Pumped Raman Amplifier," IEEE Photonics Technology Letters, Vol. 11, No. 6, pp. 647-649					06/1999
U	Kawai et al., "Wide-Bandwidth and Long-Distance WDM Transmission Using Highly Gain-Flattened Hybrid Amplifier," IEEE Photonics Technology Letters, Vol. 11, No. 7, pp. 886-888					07/1999
V	Lewis et al., "Gain and saturation characteristics of dual-wavelength-pumped silica fibre Raman amplifiers," Electronics Letters, Vol. 35, No. 14, pp. 1178-1179					07/08/1999
W	Suzuki et al., "50 GHz spaced, 32 x 10 Gbit/s dense WDM transmission in zero-dispersion region over 640km of dispersion-shifted fibre with multiwavelength distributed Raman amplification," Electronics Letters, Vol. 35, No. 14, pp. 1175-1176					07/08/1999
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	Filing Date <b>December 20, 2001</b>	

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A	6,151,160	11/21/2000	Ma et al.	359	341	10/05/1998
B	6,172,803 B1	01/09/2001	Masuda et al.	359	341	10/16/1998
C	6,185,022 B1	02/06/2001	Harasawa	359	124	02/23/1998
D	6,219,162 B1	04/17/2001	Barnard et al.	359	124	04/27/2000
E	6,229,937 B1	05/08/2001	Nolan et al.	385	24	06/24/1999
F	6,239,902 B1	05/29/2001	Islam et al.	359	334	05/05/2000
G	6,239,903 B1	05/29/2001	Islam et al.	359	337	04/25/2000
H	6,271,945 B1	08/07/2001	Terahara	359	124	09/14/1999
I	2001/0014194 A1	08/16/2001	Sasaoka et al.	385	15	01/03/2001
J	6,282,002 B1	08/28/2001	Grubb et al.	359	160	04/07/2000
K	6,320,884 B1	11/20/2001	Kerfoot, III et al.	372	3	02/26/1998
L	2001/0050802 A1	12/13/2001	Namiki et al.	359	337.11	02/05/2001
M	6,335,820 B1	01/01/2002	Islam	359	334	12/23/1999
N	6,344,922 B1	02/05/2002	Grubb et al.	359	334	02/19/1999

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						YES	NO
O	00/73826 A2	07.12.2000	WO	G02B	6/00	X	
P	1 069 712 A2	17.01.2001	EP	H04B	10/17	X	

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Q	Emori et al., "100nm bandwidth flat-gain Raman amplifiers pumped and gain-equalised by 12-wavelength-channel WDM laser diode unit," Electronics Letters, Vol. 35, No. 16, pp. 1355-1356	08/05/1999
R	Manna et al., "Modeling of Penalties on Chains of Optical Amplifiers with Equalizing Filters," Journal of Lightwave Technology, Vol. 18, No. 3, pp. 295-300	03/2000
S	Fludger et al., "Fundamental Noise Limits in Broadband Raman Amplifiers," OFC, pp. MA5/1-MA5/3	2001
T	Seo et al., "Compensation of Raman-Induced Crosstalk Using a Lumped Germanosilicate Fiber Raman Amplifier in the 1.571-1.591- $\mu$ m Region," IEEE Photonics Technology Letters, Vol. 13, No. 1, pp. 28-30	01/2001
U	Seo et al., "Simultaneous Amplification and Channel Equalization Using Raman Amplifier for 30 Channels in 1.3- $\mu$ m Band," Journal of Lightwave Technology, Vol. 19, No. 3, pp. 391-397	03/2001
V	Chen et al., "Transient effects in saturated Raman amplifiers," Electronics Letters, Vol. 37, No. 6, 2 pgs.	03/15/2001
W	Optical Society of America, Optical Amplifiers and Their Applications, Technical Digest, entitled "Raman amplification and dispersion-managed solitons for all-optical, ultra-long-haul, dense WDM."	07/1-4/2001
X	Menif et al., "Application of Preemphasis to Achieve Flat Output OSNR in Time-Varying Channels in Cascaded EDFAs Without Equalization," Journal of Lightwave Technology, Vol. 19, No. 10, pp. 1440-1452	10/2001

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**GROUP**

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	6,356,383 B1	03/12/2002	Cornwell, Jr. et al.	359	334	03/31/2000
B	6,356,384 B1	03/12/2002	Islam	359	334	04/11/2000
	6,359,725 B1	03/19/2002	Islam	359	334	12/23/1999
	6,370,164 B1	04/09/2002	Islam	372	6	04/17/2000
E	6,374,006 B1	04/16/2002	Islam et al.	385	15	03/19/1999
F	2002/0048062 A1	04/25/2002	Sakamoto et al.	359	124	02/06/2001
G	6,381,391 B1	04/30/2002	Islam et al.	385	123	12/03/1999
H	6,388,801 B1	05/14/2002	Sugaya et al.	359	334	04/23/2001

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
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	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)					DATE
L	Murakami et al., "WDM Upgrading of an Installed Submarine Optical Amplifier System," Journal of Lightwave Technology, Vol. 19, No. 11, pp. 1665-1674					11/2001
M	Rottwitz et al., "A 92 nm Bandwidth Raman Amplifier," OSA Optical Fiber Conference, San Jose, CA, paper PD-6, pp. 1-4					N/A
N	Emori et al., "Less than 4.7 dB Noise Figure Broadband In-line EDFA with A Raman Amplified-1300 ps/nm DCF Pumped by Multi-channel WDM Laser Diodes," paper PD3-1-5					N/A
O	Masuda et al., "76-nm 3-dB gain-band hybrid fiber amplifier without gain-equalizer," (Submitted to Post-Deadline Paper OAA'98), pp. PD7-1 - PD7-5					N/A
P	Nissov et al., "100 Gb/s (10x10Gb/s) WDM Transmission Over 7200 km Using Distributed Raman Amplification," pp. 9-12					N/A
Q	Srivastava et al., "High-speed WDM Transmission in AllWave™ Fiber in Both the 1.4-μm and 1.55-μm Bands," paper PD-2-5, Vail, CO					N/A
R	Walker, "Status and Challenges of Optical Fiber Amplifiers and Lasers," paper MB-1-3, pp. 12-14					N/A
S	Yariv, "Optical Electyronics in Modern Communications," Detection of Optical Radiation, Ch. 11, pp. 412-473					N/A
T	Koch et al., "Broadband gain flattened Raman Amplifier to extend operation in the third telecommunication window," FF3-1-3, pp. 103-105					N/A
U	Emori et al., "Cost-effective depolarized diode pump unit designed for C-band flat-gain Raman amplifiers to control EDFA gain profile," FF4-1-3, pp. 106-108					N/A
V	Scheerer et al., "SRS crosstalk in preemphasized WDM Systems," pp. WM28-1/293-WM28-3/295					N/A

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PTO-1449	Application No. <b>10/028,576</b>	Applicant(s) <b>Mohammed N. Islam et al.</b>	
Information Disclosure Citation In an Application	Docket Number <b>069204.0118</b>	Group Art Unit <b>2873</b>	Filing Date <b>December 20, 2001</b>

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	2002/0060821 A1	05/23/2002	Manna et al.	359	124	09/10/2001
B	6,404,523 B1	06/11/2002	Morikawa et al.	359	124	01/26/1999
	6,417,959 B1	07/09/2002	Bolshtyansky et al.	359	334	02/01/2001

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
E							
F							

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
G	Pending Patent Application, USSN 09/768,367, entitled "All Band Amplifier," by Mohammed N. Islam	Filed 01/22/2001
H	Pending Patent Application; USSN 10/100,591; entitled "System and Method for Managing System Margin," by Mohammed N. Islam et al.	Filed 03/15/2002
I	Pending Patent Application; USSN 10/100,587; entitled "Fiber Optic Transmission System with Low Cost Transmitter Compensation," by Mohammed N. Islam	Filed 03/15/2002
J	Pending Patent Application; USSN 10/100,700; entitled "Rack System for an End Terminal in an Optical Communication Network," by Mohammed N. Islam et al.	Filed 03/15/2002
K	Pending Patent Application; USSN 09/811,067, entitled "Method and System for Reducing Degredation of Optical Signal to Noise Ratio," by Michael W. Chbat et al.	Filed 03/16/2001
L	Pending Patent Application; USSN 09/811,103; entitled "System and Method for Wide Band Raman Amplification," by Mohammed N. Islam et al.	Filed 03/16/2001
M	Pending Patent Application; USSN 10/116,487; entitled "Fiber Optic Transmission System for a Metropolitan Area Network," by Mohammed N. Islam	Filed 04/03/2002
N	Pending Patent Application; USSN 10/211,209; entitled "Active Gain Equalization," by Mohammed N. Islam et al.	Filed 08/02/2002
O	PCT International Search Report Form PCT/ISA/210, International Application No. PCT/US99/13551	01/11/2000
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